

S.N.: 10/770,881  
Art Unit: 2152

Office Action dated March 17, 2008  
Response Filed September 3, 2008

**AMENDMENTS TO THE DRAWINGS:**

The attached sheets of formal drawings replace the original, informal sheets of drawings.

Annotated sheets are not required per MPEP §608.02(p).

Attachment: 5 Replacement Sheets

**REMARKS:**

**I. GENERAL REMARKS**

The Examiner objected to claim 7 based on the recitation of "stored programs." Claim 7 is amended to remove the objected-to language. Claim 10 is similarly amended.

Claims 9 and 12-15 are canceled without prejudice or disclaimer. Said cancellations were not made in response to the objections or rejections in the outstanding Office Action. Furthermore, the Applicant respectfully reserves the right to file one or more continuation applications including claims directed to the subject matter in one or more of the canceled claims.

Claims 16-33 are newly added to claim the subject matter recited therein.

The Examiner rejected claims 1-15 under 35 U.S.C. §103(a) as being unpatentable over Takahashi et al. (U.S. Patent Application Publication No. 2004/0218573) in view of Dommety et al. ("draft-ietf-mobileip-fast-mipv6003.txt," July 2001). *See pp. 3-8 of the Office Action.* The Examiner rejected claim 1 under 35 U.S.C. §103(a) as being unpatentable over Takahashi et al. in view of Dommety et al. and further in view of Applicant Admitted Prior Art (AAPA). *See p. 8 of the Office Action.* The Examiner rejected claims 9, 12 and 15 under 35 U.S.C. §103(a) as being unpatentable over Takahashi et al. in view of Dommety et al. and further in view of Applicant Admitted Prior Art (AAPA). *See pp. 8-9 of the Office Action.* The Examiner further rejected claim 1 under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Dommety et al. *See pp. 9-10 of the Office Action.* These rejections are respectfully disagreed with and are traversed below.

It is briefly noted that on page 4 of the Office Action, in rejecting claim 2 the Examiner referred to a "Christophe" reference. From the discussion following this reference, it is assumed that the Examiner intended to refer to "Dommety."

## II. CLAIMS 1, 2 AND 7-9 (THE FIRST REJECTION OF CLAIM 1)

The Examiner rejected claims 1-15 under 35 U.S.C. §103(a) as being unpatentable over Takahashi et al. in view of Dommety et al. *See pp. 3-8 of the Office Action.*

The disclosure of Takahashi et al. is directed to "reducing the CoA update duration necessary between establishment of a connection of the mobile node with a data link layer and completion of the CoA update when the mobile node switches a link connected to the IP network, to another." *See para. [0008]*. In furtherance of this direction, Takahashi et al. disclose a mobile node comprising "list acquiring means for acquiring a list of access nodes existing on neighboring links to the link used for connection by the mobile node." The mobile node also includes "CoA list creating means for creating a list of CoAs corresponding to the respective access nodes entered in the acquired access node list, each CoA being used as a destination address of the mobile node at a link on which an access node corresponding thereto exists." The mobile node further includes "access node address acquiring means for, where the mobile node changes the connected link to another link, acquiring a data link layer address of an access node existing on the link after the change." The mobile node also includes "default router detecting means for detecting a default router on the basis of the acquired data link layer address with reference to the access node list; primary CoA detecting means for detecting a CoA with a network prefix corresponding with a subnet prefix of the default router, as a primary CoA from the list of CoAs" and "path update requesting means for requesting the mobility control apparatus to update a path of a packet addressed to the mobile node, by the primary CoA." *See para. [0009]*.

As a further explanation concerning the disclosure of Takahashi et al., consider the following. The mobile node acquires a list of access node for neighboring links to the currently-used link. The mobile node then creates a CoA list for the neighboring nodes, where the CoAs correspond to destination addresses of the mobile node for each of the neighboring links. Note that this CoA list, and the CoAs generated therefor, appears to be anticipatory. That is, the mobile nodes

creates the CoA for itself for neighboring links *prior to switching to any of the neighboring links*.

Subsequently, the mobile nodes changes to a different link, acquires a data link layer address of an access node on the link, detects a default router based on the acquired data link layer address (using the access node list), and detects a primary CoA using this information and the CoA list. The path for the mobile node is then updated. In such a manner, the mobile node uses a CoA from the CoA list that was created prior to switching links. *See para. [0011]*.

Paragraph [0061] of Takahashi et al. describes the above-noted operations in relation to a mobile node (MN) 10 shown in FIG. 2. It should be noted that the overall system arrangement is shown in FIG. 1, including the MN 10, an "access router (AR) 30 as an access node for providing a link for connection of [the] MN 10 to a packet communication network," and a "mobility anchor point (MAP) 50 managing movement of mobile node 10." *See para. [0060]*.

First, it should be noted that Takahashi et al. do not disclose or suggest use of a mobile router, such as that recited in claim 1 of the instant application, for example. The described MAP 50 is more akin to a home agent of the MN 10 than to a mobile router. For example, Takahashi et al. repeatedly describe how the MNN 10 advertises the network layer address and data link layer address of the AR 30 to the MAP 50. *See, e.g., paras. [0064], [0068], [0069], [0077]*. As a further example, Takahashi et al. disclose that the MN 10 sends a binding update (BU) 64 to the MAP 50. BUs are typically sent from a mobile node to the home agent in order to inform the home agent concerning mobility of the mobile node. The operations disclosed by Takahashi et al. with respect to the BU 64 comport with the conventional usage of BUs. *See e.g., paras. [0068], [0077]*. It appears that Takahashi et al. only discuss movement of the MN 10 amongst different ARs, particularly with respect to sending a BU 64 to the MAP 50 (e.g., the home agent) and obtaining an access node list from the MAP 50.

Furthermore, Takahashi et al. do not disclose or suggest the presence of a mobile network having one or more intermediate nodes (e.g., a mobile router) between the MN 10 and the AR 30. *See, e.g., FIG. 1, 14*. For example, in FIG. 14 Takahashi et al. depict the MN 10 connecting to the AR 30 via an access point (AP) 20. However, the AP 20 is illustrated as a stationary object whereas

at least in some exemplary embodiments a mobile router (e.g., MR 3 in the instant application) may switch between different APs (e.g., see FIG. 2 of the instant application). Furthermore, Takahashi et al. do not disclose or suggest that the AP 20 be part of a mobile network.

Clearly, Takahashi et al. do not disclose or suggest usage of a mobile router. Furthermore, Takahashi et al. also cannot be seen to disclose or suggest use of a mobile network, such as one wherein at least one mobile node is behind a mobile router with both being part of a mobile network. Since Takahashi et al. do not disclose or suggest the use of a mobile router and/or a mobile network, Takahashi et al. cannot be seen to relate to the subject matter recited in claim 1 since claim 1 recites operations relating to a mobile network (MONET) that has a mobile router (MR) and a mobile network node (MNN).

More specifically, Takahashi does not disclose or suggest: "A method to manage addresses in a network, comprising: **when connecting a mobile router (MR) of a mobile network (MONET)** to an access point (AP) of an access network (AN) that includes an Access Router (AR), sending a first neighbor advertisement **from a mobile network node (MNN)**, the first neighbor advertisement comprising a care of address (CoA) and a link layer address (LLA) of **the MNN within the MONET**; based on the first neighbor advertisement, constructing a first neighbor cache **in the MR** that associates the CoA with the LLA; sending a second neighbor advertisement **from the MR to the AN on behalf of the MNN**, the second neighbor advertisement comprising a mapping between the CoA of the MNN and a LLA of the MR (LLA\_MR); and based on the second neighbor advertisement, constructing a second neighbor cache in the AR that associates the CoA with the LLA\_MR," as recited in claim 1.

Claim 1 recites: "the first neighbor advertisement comprising a care of address (CoA) and a link layer address (LLA) of the MNN within the MONET; based on the first neighbor advertisement, **constructing a first neighbor cache in the MR that associates the CoA with the LLA.**"

In FIGS. 7 and 15, Takahashi et al. show formats for the access node list that is described. In FIG. 7, the access node list includes sequence numbers, network layer addresses of ARs and valid

durations, and data link layer addresses of ARs and valid durations. In FIG. 15, the access node list also includes data link layer address of APs and valid duration. At no point do Takahashi et al. disclose that the access node list includes any information for the mobile node. In contrast, the first neighbor cache constructed in the MR associates the CoA of the MNN with the LLA of the MNN. Clearly, the access node list of Takahashi et al. cannot be seen to correspond to, disclose or suggest the first neighbor cache in the MR, as recited in claim 1.

In FIG. 10, Takahashi et al. illustrate the format for the CoA list. "[T]he CoA list contains information of the sequence number, CoA, and valid duration of each CoA, and a primary CoA described later is given information indicating 'primary CoA.'" *See para. [0074]*. First, it is noted that the described CoA list is created by the mobile node and, thus, kept in the mobile node. Takahashi et al. do not disclose or suggest that the CoA list be sent or transmitted to any other component or device. Takahashi et al. only disclose transmission of the access node list from the MAP to the MN. Furthermore, this comports with use of the CoA list as described by Takahashi et al. since the CoA list is particular to the mobile node in question as it includes CoAs for that mobile node via neighboring links. Clearly, the CoA list of Takahashi et al. cannot be seen to correspond to or suggest the first neighbor cache in the MR, as recited in claim 1.

Based on the above, it is apparent that Takahashi et al. do not disclose or suggest "the first neighbor advertisement comprising a care of address (CoA) and a link layer address (LLA) of the MNN within the MONET; based on the first neighbor advertisement, constructing a first neighbor cache in the MR that associates the CoA with the LLA," as recited in claim 1.

It is also noted that, as explained above, neither the access node list nor the CoA list of Takahashi et al. can be seen to correspond to the second neighbor advertisement or second neighbor cache, as recited in claim 1. Furthermore, since Takahashi et al. do not disclose or suggest use of a mobile router than sends an advertisement on behalf of a mobile node, Takahashi et al. cannot be seen to disclose or suggest the second neighbor advertisement, as recited in claim 1, which is sent from the MR to the AN on behalf of the MNN.

Thus, Takahashi et al. do not disclose or suggest "sending a second neighbor advertisement from the MR to the AN on behalf of the MNN, the second neighbor advertisement comprising a mapping between the CoA of the MNN and a LLA of the MR (LLA\_MR)," as recited in claim 1.

Since Takahashi et al. do not disclose the above-noted elements of claim 1, Takahashi et al. further do not disclose or suggest "based on the second neighbor advertisement, constructing a second neighbor cache in the AR that associates the CoA with the LLA\_MR," as recited in claim 1.

It is further noted that Dommety et al., which the Examiner combined with Takahashi et al. in the § 103(a) rejection of claim 1, does not remedy the above-noted defects of Takahashi et al., nor did the Examiner argue otherwise. Since Takahashi et al. and Dommety et al., considered separately or in combination, do not disclose or suggest the elements recited in claim 1 of the instant application, Takahashi et al. in view of Dommety et al. certainly does not render claim 1 obvious. Therefore, claim 1 is patentable and should be allowed.

Though dependent claim 2 contains its own allowable subject matter, claim 2 should at least be allowable due to its dependence from allowable claim 1. In order to expedite prosecution, it is briefly noted that Takahashi et al. and Dommety et al., considered separately or in combination, do not further disclose or suggest the elements recited in claim 2.

For example, the Examiner cited the MN 10 detecting the default router and primary CoA address based on the access node list (Takahashi et al. at para. [0011]) as allegedly corresponding to "in response to an arrival of a downlink packet at the AR having a CoA in a destination address field, checking the second neighbor cache using the CoA to obtain the associated LLA\_MR of the MR," as recited in claim 2 of the instant application. However, the checking of the second neighbor cache is clearly performed by the AR since the second neighbor cache is in the AR. Thus, actions performed by the MN cannot be seen to claimed actions performed by an AR. Furthermore, as noted above the access node list does not include information similar to that of the first neighbor list and/or the second neighbor list. Clearly, Takahashi et al. does not disclose or suggest "in response to an arrival of a downlink packet at the AR having a CoA in a

destination address field, checking the second neighbor cache using the CoA to obtain the associated LLA\_MR of the MR," as recited in claim 2.

Independent claim 7 claims similar features as claim 1 noted above. For the same reasons stated above with respect to claim 1, independent claim 7 is not rendered obvious by Takahashi et al. in view of Dommetry et al. Therefore, independent claim 7 is patentable and should be allowed.

Though dependent claims 8 and 9 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claim 7. It is briefly noted that dependent claim 8 recites subject matter similar to dependent claim 2 as noted above. Thus, the additional arguments presented for claim 2 are further applied to dependent claim 8.

### III. CLAIMS 3-6 AND 10-15

To warrant a §103(a) rejection of one or more claims, in view of all factual information, it must be determined that the claimed invention "as a whole" would have been obvious to one of ordinary skill in the art at the time the invention was made. The conclusion must be reached on the basis of the facts gleaned from the prior art. *See MPEP §2142.*

"All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). *See, MPEP §§2142, 2143.03.*

"The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness." *See, MPEP §2142.*



Contrary to the Examiner's supposition on pages 5, 6 and 8 of the Office Action, independent claims 3, 5, 10 and 13 expressly **do not** recite the same elements as those recited in independent claims 1 and/or 7.

As a non-limiting example, independent claim 3 recites:

A method to manage addresses in a network, comprising:

when connecting a mobile router (MR) of a mobile network (MONET) to an access point (AP) of an access network (AN) that includes an Access Router (AR), sending a first neighbor advertisement from a mobile network node (MNN), the first neighbor advertisement comprising a care of address (CoA) and a link layer address (LLA) of the MNN within the MONET;

based on the first neighbor advertisement, constructing a first neighbor cache in the MR that associates the CoA with the LLA, **and constructing a mapping table that associates the CoA with one of a set of LLAs of the MR (LLA MR<sub>i</sub>)**;

sending a second neighbor advertisement from the MR to the AN on behalf of the MNN, the second neighbor advertisement comprising **a mapping between the CoA of the MNN and the LLA MR<sub>i</sub>**; and

based on the second neighbor advertisement, **constructing a second neighbor cache in the AR that associates the CoA with the LLA MR<sub>i</sub>**.

As another non-limiting example, independent claim 5 recites:

A method to manage addresses in a network, comprising:

when connecting a mobile router (MR) of a mobile network (MONET) to an access point (AP) of an access network (AN) that includes an Access Router (AR), sending a first neighbor advertisement from a mobile network node (MNN), the first neighbor advertisement comprising a care of address (CoA) and a link layer address (LLA) of the MNN within the MONET;

based on the first neighbor advertisement, **constructing a mapping table in the MR that associates the LLA of the MNN with one of a set of LLAs of the MR (LLA\_MRi)**;

sending a second neighbor advertisement from the MR to the AN on behalf of the MNN, the second neighbor advertisement comprising **a mapping between the CoA of the MNN and the LLA\_MRi**; and

based on the second neighbor advertisement, constructing a neighbor cache in the AR **that associates the CoA with the LLA\_MRi**.

Independent claim 10 recites subject matter similar to that of independent claim 3. Relatedly, independent claim 13 recites subject matter similar to that of independent claim 5. As a non-limiting example, the subject matter recited in claims 3 and 10 generally may be seen to correspond to FIG. 4. As another non-limiting example, the subject matter recited in claims 5 and 13 generally may be seen to correspond to FIG. 5.

The Examiner's rejection of independent claims 3, 5, 10 and 13 is traversed as being insufficient since the Examiner failed to identify one or more references that are alleged to disclose or suggest all of the elements recited in independent claims 3, 5, 10 and 13.

Notwithstanding the above, with respect to independent claims 3, 5, 10 and 13, these claims further recite aspects concerning a set of LLAs of the MR (LLA\_MRi). FIG. 15 of Takahashi et al. shows an access node list format. Each AR shown in FIG. 15 only has one network layer

address and one data link layer address. Thus, FIG. 15 does not show a set of LLAs assigned to a (single) MR. Furthermore, there is no indication that any address shown in FIG. 15 is one of a set of LLAs assigned to a (single) MR.

Takahashi et al. and Dommety et al., considered separately or in combination, do not disclose or suggest the use of a set of LLAs for a single mobile router. Thus, independent claims 3, 5, 10 and 13 are patentable over the cited prior art (i.e., the prior art cited for claim 1) and should be allowed.

Though dependent claims 4, 6, 11, 12, 14 and 15 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable independent claims 3, 5, 10 and 13.

#### IV. THE SECOND REJECTION OF CLAIM 1

On page 8 of the Office Action, the Examiner rejected claim 1 under 35 U.S.C. §103(a) as being unpatentable over Takahashi et al. in view of Dommety et al. and further in view of AAPA. However, the Examiner failed to provide any additional explanation for this apparent rejection of claim 1.

As noted above, to warrant a §103(a) rejection of one or more claims, in view of all factual information, it must be determined that the claimed invention "as a whole" would have been obvious to one of ordinary skill in the art at the time the invention was made. The conclusion must be reached on the basis of the facts gleaned from the prior art. *See MPEP §2142*. "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). "The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness." *See, MPEP §2142*.

The rejection of claim 1 under 35 U.S.C. §103(a) as being unpatentable over Takahashi et al. in view of Dommety et al. and further in view of AAPA is thus traversed as being insufficient. Furthermore, any other rejections of one or more additional independent or dependent claims, as based on the rejection of claim 1 under 35 U.S.C. §103(a) as being unpatentable over Takahashi et al. in view of Dommety et al. and further in view of AAPA, are thus further traversed as also being insufficient.

#### V. THE THIRD REJECTION OF CLAIM 1

The Examiner further rejected claim 1 under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Dommety et al. *See pp. 9-10 of the Office Action.* The Examiner cited the instant application at paragraphs [0007] and [0011] and FIGS. 1 and 2.

Paragraphs [0010]-[0012] state:

The basic NEMO approach is illustrated in FIG. 2. The MR 3 is assumed to have an assigned home network with a home agent referred to as the HA\_MR 8. Each MONET 1 where a MR 3 resides is assigned a MONET network prefix (MNP), which is the permanent network prefix assigned in the home link of the MR 3. The MNP is not changed when the MR 3 moves its network attachment from one AR 5 to another. The ingress interface of the MR 3 is configured with the MNP, and the CoAs of all the MNNs 7 in the MONET 1 are configured using the MNP. As long as the MNN 7 resides within the same MONET 1, its CoA need not be changed. The MNN 7 may update a binding cache 9 in its own HA10 and correspondent nodes 12 by sending a BU. With this configuration, all of the packets sent to the CoA of the MNN 7 are first routed to the home link of the MR 3, and intercepted by the HA\_MR 8, which further routes the packet to the MR 3 as described below.

The MR 3 configures its CoA using the network prefix advertised by the serving AR 5 (AR-1) on its egress interface. When the MR 3 changes its attachment point, it reconfigures its CoA using the prefix of the new AR 5 (AR-2). In addition to sending a BU with the new CoA to the HA\_MR 8 to update the binding cache 9A, the MR 3 also sends a Prefix Scope Binding Update (PS BU) message to the HA\_MR 8. **The PS BU is an enhanced BU that associates the CoA of the MR 3 to the MNP instead of to a single address. The HA\_MR 8 uses this binding to tunnel (shown generally as tunnel 11) to the MR 3 any packet that shows the MNP in the destination field,** although some other scheme (e.g., router optimization) may be used to avoid or reduce the overhead due to the tunneling between the HA\_MR 8 and the MR 3. **After decapsulating the tunneled packet from the HA\_MR 8, the MR 3 forwards the original packet to the correspondent MNN 7 within the MONET 1.**

With this approach, even when the MR 3 moves between ARs 5, and thus changes its CoA, the MNNs 7 within the MONET 1 are enabled to use the same CoA, and no new CoAs are needed for MNNs. This reduces the overhead due to IP mobility of each MNN 7. **However, the overhead due to the bi-directional tunneling between the HA\_MR 8 and the MR 3 is posted over the interface between the MR 3 and the AR 5, and is applied to all packets inbound to or outbound from the MNNs 7. Since the access interface between the MR 3 and the access network 4 is most likely a radio interface in the cases of particular interest to this invention, the overhead incurred by the use of the tunneling 11 significantly reduces the spectrum efficiency of the wireless link.**

These paragraphs describe a prior art approach known as a NEMO approach. The NEMO approach requires tunneling which in turn increases the overhead and reduces the spectral efficiency.

At least some exemplary embodiments of the invention seek to improve on the NEMO approach by providing a method to manage addresses in a network, such as one that does not require the tunneling of packets for the MNNs 7. The method recited in claim 1 is one such exemplary method.

First, it is noted that the MR 3 configuring its CoA on its egress interface using the network prefix advertised by the serving AR 5 (AR-1) cannot be seen to disclose or suggest "based on the first neighbor advertisement, constructing a first neighbor cache in the MR that associates the CoA with the LLA," as recited in claim 1. This portion does not disclose any use of a LLA. Furthermore, the network prefix is received from an AR whereas the first neighbor advertisement is received from a MNN. Clearly the two are different.

Second, the MR 3 reconfiguring its CoA using the prefix of a new AR, when the MR 3 changes its attachment point to the new AR, cannot be seen to disclose or suggest "sending a second neighbor advertisement from the MR to the AN on behalf of the MNN, the second neighbor advertisement comprising a mapping between the CoA of the MNN and a LLA of the MR (LLA\_MR)," as recited in claim 2. There is no indication in the AAPA that an alleged update for the CoA of the MR is sent on behalf of a MNN. Furthermore, there is no indication in the AAPA that an alleged update for the CoA of the MR includes a mapping between the CoA of the MNN and a LLA of the MR (LLA\_MR). For that matter, this portion does not relate to the CoA of a MNN but rather the CoA of the MR. Clearly the AAPA does not disclose or suggest this portion of claim 1.

Third, the MR 3 also sending a Prefix Scope Binding Update (PS BU) message to the HA\_MR 8 in addition to sending the HA\_MR 8 a BU with the new CoA cannot be seen to disclose or suggest "based on the second neighbor advertisement, constructing a second neighbor cache in the AR that associates the CoA with the LLA\_MR," as recited in claim 1. As quoted above, paragraph [0011] explains: "The PS BU is an enhanced BU that associates the CoA of the MR 3 to the MNP instead of to a single address. The HA\_MR 8 uses this binding to tunnel (shown

generally as tunnel 11) to the MR 3 any packet that shows the MNP in the destination field." Thus, while the BU updates the HA\_MR with the new CoA of the MR, the PS BU updates the HA\_MR regarding the new prefix (MNP) of the MR. Since the MR reconfigures its CoA using the prefix (MNP) of a new AR when the MR 3 changes its attachment point to the new AR (as described in the paragraph immediately above), the CoA and the prefix (MNP) are updated at the HA\_MR. In addition, the HA\_MR 8 is not comparable to the AR recited in claim 1 since the HA\_MR 8 is not part of the AN 4. Furthermore, there is no disclosure relating to a LLA, let alone a LLA of the MR (LLA\_MR).

It is further noted that Dommety et al. does not remedy the above-identified issues concerning the Examiner's alleged application of the AAPA to claim 1, nor does the Examiner argue otherwise.

The AAPA, nor the AAPA in view of Dommety et al., does not disclose or suggest at least: "based on the first neighbor advertisement, constructing a first neighbor cache in the MR that associates the CoA with the LLA; sending a second neighbor advertisement from the MR to the AN on behalf of the MNN, the second neighbor advertisement comprising a mapping between the CoA of the MNN and a LLA of the MR (LLA\_MR); and based on the second neighbor advertisement, constructing a second neighbor cache in the AR that associates the CoA with the LLA\_MR," as recited in claim 1.

The AAPA and Dommety et al., considered separately or in combination, do not disclose or suggest the subject matter recited in claim 1. Claim 1 is patentable over the cited prior art and should be allowed.

No further arguments are presented concerning the application of the AAPA (i.e., instead of Takahashi et al.) to one or more of the other independent claims or dependent claims because the Examiner did not issue any such rejection. The Applicants expressly do not concede the applicability of the AAPA to any pending claims in the instant application, nor that elements of any such pending claims are anticipated or rendered obvious by the AAPA. The Applicants reserve the right to respond to any such rejection(s) should they be raised at a later time.

VI. FURTHER ARGUMENTS

The Applicants respectfully reserve the right to argue other portions of one or more of the independent or dependent claims. The arguments presented above are merely exemplary as it is believed that the arguments presented for the independent claims should be sufficient to address the Examiner's claim rejections. The Applicants expressly do not concede any alleged correspondence, disclosure or suggestion that is argued by the Examiner with respect to one or more of the independent or dependent claims.

VII. CONCLUSION

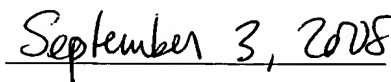
The Examiner is respectfully requested to reconsider and remove the rejections of claims 1-15 under 35 U.S.C. §103(a) and to allow all of the pending claims 1-8, 10, 11 and 16-33 as now presented for examination. For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record. Should any unresolved issue remain, the Examiner is invited to call Applicants' agent at the telephone number indicated below.

Respectfully submitted:



Alan L. Stern

Reg. No.: 59,071



Date

Customer No.: 29683

HARRINGTON & SMITH, PC  
4 Research Drive  
Shelton, CT 06484-6212

Telephone: (203) 925-9400 ext. 18  
Facsimile: (203) 944-0245  
E-mail: [astern@hspatent.com](mailto:astern@hspatent.com)



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